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**Notice of Allowability**

Application No.

10/528,605

Examiner

Barbara Summons

Applicant(s)

HATTORI, WATARU

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the pre-amendment received 21 March 2005.
2. ☒ The allowed claim(s) is/are 1-10, 23, 24, 37, 38, 41, 42, 51, 52, 55 and 58-60.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☒ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 3/21/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other comment on priority.

## **REASONS FOR ALLOWANCE/COMMENTS ON PRIORITY**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 19 September 2002. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b), nor has a certified copy of the Japanese application been received from the International Bureau in this national stage application. The Examiner is providing attachment 1, which is an internal document of the PTO indicating that no priority documents were received with the international application papers.

### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or fairly suggest a filter having each and every one of the recited features, some of those features including: "a single acoustic wave resonator" (claim 1, lines 1-2) or a "resonator unit including at least one acoustic wave resonator" (claim 2, lines 1-2) between input/output electrodes, wherein the filter has "a number of structures capable of simultaneously and independently changing all parameters for determining frequency characteristics" thereof (see claims 1 and 2, lines 5-8), the parameters being those specifically recited in the individual claims, the "structures being capable of being simultaneously applied with electric signals independently of one another" and with the "number of structures being at least equal to the number of the parameters" (see claims 1 and 2, lines 10-13), the filter further including "an electromechanical transducer having a function capable of mechanically

deforming one portion of each of said structures of said filter simultaneously and with finite dependency by individually applying the electric signals to electrodes disposed in said structures" (see claims 1 and 2, the last four lines thereof). The prior art of record may disclose some features of the invention, but not all, and individual references being cited by the Examiner are discussed below.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

MacDonald et al. U.S. 5,640,133 is an English language equivalent of the "X" document cited on the International Search Report, and it discloses a micromechanical resonator being a moveable beam 52 (see Fig. 8) which can have its center frequency tuned by micromechanical transducers 66 and 68 via and electrical bias voltage applied to adjacent electrodes 70/84, 72/90 (see col. 7, lines 27-32). However, it should be noted that no other of the recited "parameters" are changed, and the resonator is not an "acoustic wave resonator".

Nguyen et al. U.S. 5,955,932 discloses a micromechanical resonator and filter that has an adjustable Q (see e.g. the Title) as well as having other adjustable parameters including center frequency and bandwidth (see e.g. col. 12, lines 7-8 and

18-21). However, some of these parameters are changed with the same voltage (ibid.), i.e. not "independently", and the resonator is not an acoustic wave resonator.

Nguyen et al. U.S. 5,976,994 discloses a micromechanical resonator that has an adjustable Q and resonant frequency (see col. 2, lines 19-26) by applying an electrical signal that heats the resonator to change its material or structural properties (col. 2, lines 10-16). Again the resonator is not an acoustic wave resonator, and the parameters are not changed independently.

Nguyen et al. U.S. 6,249,073 is another similar tunable micromechanical resonator filter.

Stalford et al. U.S. 7,095,295 discloses a micromechanical resonator wherein the resonant frequency and the bandwidth are independently tuned (see col. 1, lines 51-55).

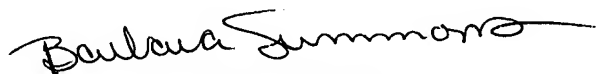
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

bs

November 5, 2007  
(1 Attachment)



**BARBARA SUMMONS**  
**PRIMARY EXAMINER**

Attachment 1

# DO/EO WORKSHEET

U.S. Appl. No. **10/528605**

Paralegal/ National Stage Division

International Appl. No. \_\_\_\_\_

Application filed by: ☐ 20 months ☒ 30 months

## WIPO PUBLICATION INFORMATION:

Publication No.: WO /

Publication Language: ☐ English ☐ German ☐ Japanese ☐ Chinese ☐ Korean  
☐ French ☐ Spanish ☐ Russian ☐ Other: \_\_\_\_\_

Publication Date: \_\_\_\_\_

Not Published: ☒ U.S. only designated ☐ EP request

Published: ☐ EP request

## INTERNATIONAL APPLICATION PAPERS IN THE APPLICATION FILE:

☒ International Application (RECORD COPY)

☐ PCT/IB/331

☐ Article 19 Amendments

☐ Request form PCT/RO/101

☒ PCT/IPEA/409 IPER: ☐ EP ☐ JP ☐ SE ☐ AU

☒ PCT/ISA/210 - Search Report: ☐ EP ☐ JP ☐ SE ☐ AU

☐ US ☐ FR ☐ CN ☐ ES ☐ RU ☐ AT ☐ KR ☐ \_\_\_\_\_

☐ US ☐ FR ☐ CN ☐ ES ☐ RU ☐ AT ☐ KR ☐ OTHER \_\_\_\_\_

☐ PCT/IPEA/409 IPER was NOT AVAILABLE at the time of  
paralegal review

☐ NONE

☐ Annexes to 409

☐ Search Report References

☐ Priority Document (s) No. \_\_\_\_\_

☐ Other: \_\_\_\_\_

## RECEIPTS FROM THE APPLICANT (other than checked above):

☐ Basic National Fee (or authorization to charge)

☒ Preliminary Amendment(s) Filed on:

☒ Description ☒ Claims ☒ Abstract

☒ Information Disclosure Statement(s) Filed on:

☒ Drawing Figure(s) - (# of drwgs. 18)

☒ Assignment Document (forwarded to  
Assignment Branch)

☐ Translation of Article 19 Amendments

☐ Assignee PG Publication Notice

☐ entered ☐ not entered:

☐ Substitute Specification Filed on:

☐ not a page for page substitution  
☐ replaced by Article 34 Amendment

1. \_\_\_\_\_ 2. \_\_\_\_\_

☐ Annexes to 409

☐ Verified Small Status Statement

☐ entered ☐ not entered:

☒ Oath/ Declaration (executed)

☐ not a page for page substitution  
☐ no translation ☐ other: \_\_\_\_\_

☐ unsigned ☐ no citizenship

☐ Application Data Sheet

☐ DNA Diskette ☐ Sequence Listing

☐ Power of Attorney/ Change of Address

☐ Other: \_\_\_\_\_

NOTES: ☐ I.A. used as Specification ☐ Other: \_\_\_\_\_

35 U.S.C. 371 - Receipt of Request (PTO-1390)

Date Acceptable Oath/ Declaration Received

Date of Completion of requirements under 35 U.S.C. 371

Date of Completion of ALL requirements

Date of Completion of DO/EO 903 - Notification of Acceptance

Date of Completion of DO/EO 905 - Notification of Missing Requirements

Date of Completion of DO/EO 909 - Notification of Abandonment

Date of Completion of DO/EO 916 - Notification of Defective Response

Date of Completion of DO/EO 922 - Notification to Comply w/ Requirements for Patent  
Applications Containing Nucleotide and/or Amino Acid Sequence Disclosures

Date of Completion of DO/EO 923

RECEIVED 21 MAR 2005

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RECEIVED 21 MAR 2005

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